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# *Obispoensis*

Newsletter of the San Luis Obispo Chapter of the California Native Plant Society

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November 2012

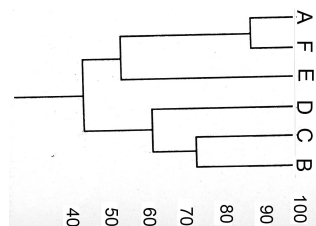
## California Bay-Laurel (*Umbellularia californica*)

Bonnie's cover drawing this time is a modified repeat from May 2009. It is derived from one that she did for David Keil and my plant taxonomy text. My guess is that it is a tree that almost all of you know already. It is one of the first trees for which I learned its name. It is known locally as the California bay laurel or simply California bay. Its scientific name is *Umbellularia californica* and belongs to the laurel, sassafras, cinnamon or camphor family (Lauraceae). As can be surmised from the drawing of a flowering twig tip, it produces small flowers. Each yellowish-green flower cluster turns into a single dry olive-like fruit.

Why discuss this species so soon? It's because Heather asked me to explain the new family placements in the new *Jepson Manual*. Up until the middle of the 20<sup>th</sup> century, the flowering plants were divided into only two taxonomic classes. These were the monocots and the dicots. Different taxonomists divided the flowering plants in various ways, but none seriously messed with the dicot/monocot distinction. Then in the late 1960's, Arthur Cronquist came up with a new classification for the dicots which accounts for 2/3 of the flowering plants. It should be noted that he too didn't mess seriously with the two classes – dicot and monocot. What he did do was recognize an evolutionary basal subclass he called the Magnoliidae. This subclass contained many woody plants which displayed characteristics that he considered very primitive. These included such traits as a wood anatomy more like conifers than the rest of the flowering plants. A few of them, but none of our native California plants, even had immature seeds (ovules) that were exposed to the open via an opening in their ovaries which resulted in a pollination process where the pollen landed directly on the ovule. Again this is reminiscent of what occurs in gymnosperms. One thing we need to remember about the plants classified in this subclass is that they all produced true flowers so there was no controversy about their being flowering plants. We now skip ahead to the 1980s and 1990s. Genetic procedures were developed that allowed the molecule DNA (deoxyribonucleic acid) to be readily extracted from organisms and duplicated rapidly. This produced sufficient quantities to be easily studied. Studying DNA means determining the sequences of the four nucleotides that are found in all DNA molecules. These nucleotides include A (adenine), C (cytosine), G (guanine), and T (thymine). Basically all DNA molecules contain long sequences of these four nucleotides in patterns unique to the group to which an individual organism belongs. Each individual within a

group also possesses DNA sequences that are a very slight variation of its group DNA.

At this time plant taxonomists combined the newer DNA sequences with older morphological (form or appearance) and biochemical traits (as well as fossil evidence where available) into extremely large data tables (similar to computer spreadsheets and tables produced in Microsoft WORD and EXCELL only larger and read by different software. These huge data sets required computers running specialized analysis programs. These programs basically create groups of species on the basis of similarity using all the characteristics including DNA sequence data. That is, it would first link species together that shared the most characteristics. Then it would combine these new groups, again based on combined similarity, into a smaller number of slightly larger groups. If you repeat this procedure long enough, it will produce series of fewer but larger clusters. Ultimately, the large number of individual starting groups (species) will end up in a single, all encompassing group. The computer can also produce a picture of the process. This diagram resembles an intricately branched shrub or tree. In the diagram below, species (or genera or families) are represented by letters and the numbers represent degree of similarity or percent of shared characters. In the diagram below, the many first-formed, highly similar



small groups appear to the right of the tree or at the branch tips while the few last formed, diverse, composite groups appear toward the left. I'm guessing that some of you will picture the tree as potentially representing an

evolutionary sequence, with the more primitive groups at the left and the derived (advanced) groups to the left.

How does all this impinge on the placement of California bay, as well as spicebush (*Calycanthus*) and yerba manza (*Anemopsis*), in Jepson? Well, when this process was repeated many times by many researchers, it turned out that these plants fell not only below and separate from the rest of the dicots and monocots but also between the dicots and monocots. The only way to translate these relationships into a classification system was to create a new category of flowering plants that is neither monocot nor dicot but equal to them in rank. This is the "magnoliids." Look at Bonnie's picture of the enlarged flower. Count the sepals (it doesn't have any petals). There are six, which is a monocot character. There are also nine stamens also on the monocot 3-merous plan. Note that the plant is a tree whose trunk increases in

diameter via a cylindrical layer of dividing cells (cambium). This, the pinnate veined leaves and two seed leaves (cotyledons) found in the embryo are dicot characters. So even without the esoteric DNA information, a case can be made for the creation of this NEW class of flowering plants to contain intermediates such as our California bay. – Dirk Walters, illustration by Bonnie Walters

## PRESIDENT'S NOTES

The Plant Sale on November 3 is our chapter's largest fundraiser. It is critically important to us as everything is getting more expensive, and we have web sites, newsletters, education, room rents, conference supports and book production to finance. So bring yourself and your friends and buy some plants. Actually, we welcome you if you just want to say hello, or want horticultural advice.

The October meeting provided a spectacular set of pictures, and I thank everybody who participated, including the bearers of desserts. It is our intention to have our March meeting in Atascadero, as we have in the last couple of years in order to serve our North County members, but I would like to see some support for this before we rent a room. I would like to hear from "northerners" about programs they would like to see, and if there is sufficient support we will go ahead. If we don't hear from members, we may change our plans.

If any chapter member would like to be nominated for a chapter board position or put themselves up for election, contact Mardi Niles or come to the November meeting. The positions of President, Vice-President, Treasurer, Secretary and Corresponding Secretary are subject to annual election.

## SHARK INLET FIELD TRIP REPORT

The October 6th field trip to Shark Inlet spent a couple of hours in warm sunshine searching for flowers along the south shore of Morro Bay. There were lots of yellow flowering mock heather, Menzies' isocoma and Blochman's



senecio, all full of monarch butterflies. Oceans of white and pink corethrogyne, a scattering of Blochman's daisy, California silene, California rose, mustard, buckwheat, wire lettuce, solanum, thistle, poppy, primrose, and two seasonally confused plants, a wallflower and an eriastrum. Along the

## CHAPTER MEETING

Thursday, November 1, 7 p.m. at the Vets Hall, SLO, Grand Ave. & Monterey St. The speaker is our member Bill Waycott, and his topic, "Some Unique Plant Habitats in Remote Areas of California."

Bill is currently working on leafy vegetable research at Seminis Vegetable Seeds in Arroyo Grande. He has a Ph.D. in plant genetics and physiology from UC Santa Cruz.

Visiting and Book Purchasing from 7:00 p.m.  
Meeting and Program Begin at 7:30 p.m.

shore we saw *Frankenia*, two species of *Atriplex*, *Salicornia*, and *Jaumea* in flower. Add interesting *Juncus* and *Carex* species, coyote melon, dune almond and more, and the participants had to agree that it is never a bad time for plant hunting in our county. – David Chipping

## CONSERVATION REPORT - THE WRATH OF GRAPES

The fast-growing wine industry in our county is a bright spot in a drab economy as far as both jobs and tourism is concerned, so it is important that we express some caution about its growth. I ferreted out SLO County agricultural statistics that show vineyard acreage has increased from 24,660 acres in 1999 to 37,688 acres in 2011, a 50% increase in a decade. Much of this has been conversion of dry farmed grazing or other row crops, but there is increasing incursion into oak savannas and woodlands. In the case of Laetitia Vineyards and others, the vineyards are also being used to anchor expansion of housing. The Board of Supervisors has voted to ban further subdivision on the overdrafted Paso Robles groundwater basin. When I reported these numbers to the county Water Resources Advisory Committee one of the agricultural representatives indicated that another 5,000 acres might become vineyard in the next year alone. We are running out of agricultural conversion space, so much of this will be in grasslands and woodlands and have a significant impact on native species.

Climate change is going to be an important problem for an entrenched grape industry, which will have to shift uphill and northward to maintain existing varieties, or replace with more drought and heat tolerant grapes. According to a recent study from Stanford University, about two degrees of warming could reduce California's premium wine-growing land by 30 to 50 percent. That could happen as soon as 2040. Water supply is also expected to be an issue. – David Chipping



## FIELD TRIPS & EVENTS

**Sunday, November 11, 9 a.m., Bishop Peak including Felsman Loop.** Celebrate the Veteran's Day weekend with a walk on one of our most popular Morros, Bishop Peak. We will discover beautiful open spaces of grasslands, dense oak woodlands, areas of diverse chaparral, late fall wildflowers, as well as spectacular vistas. Meet at trail head on west side of Patricia Drive in San Luis Obispo, between Patricia Court and Anacapa Circle. Bring adequate water, snacks, and dress in layers for the weather; a hat and sturdy shoes is advised. For info, call Bill at (805) 459-2103 (bill.waycott@gmail.com). This walk is jointly sponsored by the Santa Lucia Chapter of the Sierra Club. Rain or the threat of rain cancels.

**Sunday, 18 November 18, 2:00 p.m., LVBHS Fall Plant Exchange,** Lompoc Methodist Church. Please join us for our Fall Plant Exchange and Tool Sharpening session. Come share those extra favorite plants that are too good to throw away. We will also have tips on planting and pruning. Remember also that this is meeting where we nominate next year's officers. We meet at the Methodist Church in Lompoc corner of N. "F" and E. North Streets at 2:00 p.m. Call Mimi Erland, (805) 733-2323, or Charlie Blair, (805) 733-3189, for more information.

**Saturday, December 1, 2:30 p.m. to 4:30 p.m., Mitchell Park, San Luis Obispo.** Join Dr. Matt Ritter for a tree walk through downtown San Luis Obispo. The walk will begin at Mitchell Park and we will stroll along the city sidewalks ending at Mission San Luis Obispo. In California, there is no need to travel to an exotic location to be awed by nature when much of the world's amazing plant diversity is represented in our neighborhood parks and gardens, and on our streets. Dr. Ritter will share his favorite natural history stories and identification tips, and reveal the secrets behind San Luis Obispo's many beautiful heritage trees. Wear comfortable shoes and warm clothing. The walk is limited to 25 people. To participate in the walk,

contact Bill Waycott at (805) 459-2103 or (bill.waycott@gmail.com) and leave your name and contact information. This walk is sponsored by the Santa Lucia Chapter of the Sierra Club. Rain or the threat of rain cancels.

**Saturday, December 15, 9 a.m. Fungal Foray,** Cambria, led by David Krause, Mark Brunschwiler, and Dennis Sheridan. On this morning field trip we will be looking for mushrooms growing in the Monterey pine forests of Cambria. Meet at the San Luis Obispo Vets Hall parking area on Grand Avenue at 8 a.m. Meet at the Cambria Vets Hall at 9 a.m. How to get there: Traveling north on Hwy 1, take a right at the stop light at Cambria Road, Cambria, go one block to Main Street and take a left and then a left again into the Cambria Vets Hall parking lot. There is no public restroom here. Bring water, your field guides and a mushroom basket for you may want to collect some edible varieties. Dress appropriately for the weather. Be prepared for poison oak. The hike will be easy, about a 3 hour stroll through the woods. For additional information e-mail or call David Krause (dkincmbria@aol.com (805) 459-9007) or Bill Waycott (bill.waycott@gmail.com (805) 459-2103).

**Saturday, December 22, 9:30 a.m., Point Buchon Trail, Montaña de Oro State Park.** The Point Buchon trail stretches south along the coast at Montaña de Oro State Park. The trail gives us access to a wide coastal shelf between the local hills and the rugged coast line of the Pacific Ocean. The area is relatively undisturbed and early winter wild flowers should be in evidence. Meet at the parking lot at the southern end of Montaña de Oro SP at the start of the Coon Creek trail. Bring adequate water, snacks, and dress in layers for the weather; a hat and sturdy shoes is advised. For info, call Bill at (805) 459-2103 (bill.waycott@gmail.com). This walk is jointly sponsored by the Santa Lucia Chapter of the Sierra Club. Rain or the threat of rain cancels.



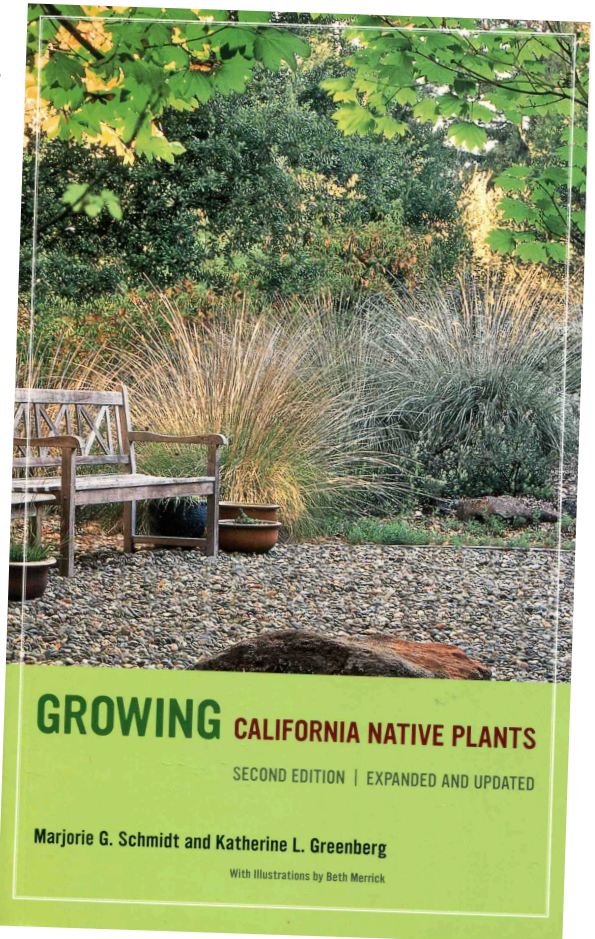
## BOOK NEWS

***Growing California Native Plants***, 2<sup>nd</sup> edition by Marjorie Schmidt and Katherine Greenberg. \$27.00. I am really enthused about this book. It is a great reference and has been updated with better paper, easier to use, a smaller edition that fits in your hand, color photos and so much useful information. New cultivars and more categories which are considered to important to gardeners today. A most important reference guide.

***Wildflowers of California – A Month By Month Guide***, by Laird R. Blackwell. \$30.00. This is a really cool book which lists over 600 flowers of California by color photo and description, month of usual blooming and geographical regions of California where it can be found. Just the book to have by your side when you are on a trip in California.

***The California Wildlife Habitat Garden or How To Attract Bees, Butterflies, Birds and Other Animals***, by Nancy Bauer. I couldn't wait to read this book and have read it over and over several times. Five different gardens are described; a bird garden, a wildlife garden, a pollinator garden, a wildlife pond and a front yard habitat and wildlife garden in various areas of California. Each is described with pictures, plant lists. The gardeners in each share their processes, difficulties and the rewards. There are many good ideas for us to incorporate in our own gardens no matter how large or small.

***California Native Gardening, A Month-by-Month Guide***, by Helen Popper. \$30.00 Helen Popper begins her book in the month of October. The month for most of us when the dry season begins to leave and our green season begins. As the year progresses around the calendar, each month's chapter lists the gardening tasks that need to be addressed and helps us focus on California with its unique sense of time and place.



-Happy reading! Heather Johnson

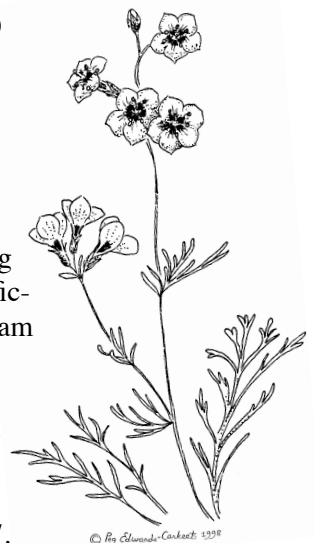
## Fire and Fuel Management

Wildfire is a natural part of California ecosystem. However, wildfire also has significant potential for creating conditions that aid in the establishment or spread of invasive plants.

To address these conditions, the California Invasive Plant Council and a team of fire and fuel management experts have developed a set of voluntary best management practices (BMPs) for fire management planning, fuel management, fire suppression, and post-fire activities. The 3rd edition of *Best Management Practices for land Managers* incorporates these BMPs and is now available. Download your free copy from [www.cal-ipc.org/ip/prevention/landmanagers.php](http://www.cal-ipc.org/ip/prevention/landmanagers.php).

## We'd Like to Hear From You!

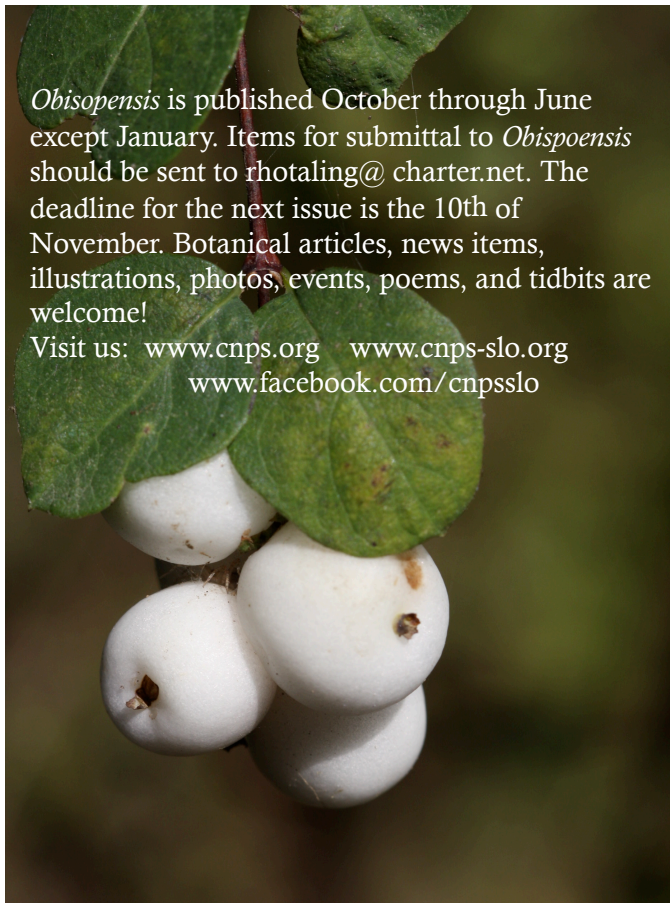
If you would like to make a suggestion for a chapter meeting program, field trip, plant identification workshop, outreach program for schoolchildren, or anything else that could help us improve our service to the public, please contact us. You can phone or email your ideas to any of the board members listed on page 7.



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# BOTANICAL SOCIETY TO CELEBRATE 100<sup>TH</sup> ANNIVERSARY IN APRIL

All botanical enthusiasts are invited to set aside the weekend of April 12-14 to celebrate the 100th Anniversary of the founding of the California Botanical Society, familiarly known as CalBotSoc. The title of the event is "Botanical Frontiers: Past and Present," which will include field trips to Mt. Tamalpais and Mt. Diablo on Friday, lectures by prominent botanists at UC Berkeley on Saturday, followed by a banquet at the Shattuck Hotel in Berkeley, and a series of presentations by graduate students at the 23rd Graduate Student Meeting at UC Berkeley on Sunday. Further information about the event will appear in various CNPS publications as the date approaches. CalBotSoc produces the highly respected journal, *Madroño*, which frequently has articles of interest to Central Coast plant people.



*Symphoricarpos albus* fruit

*Obispoensis* is published October through June except January. Items for submittal to *Obispoensis* should be sent to [rhotaling@charter.net](mailto:rhotaling@charter.net). The deadline for the next issue is the 10th of November. Botanical articles, news items, illustrations, photos, events, poems, and tidbits are welcome!

Visit us: [www.cnps.org](http://www.cnps.org) [www.cnps-slo.org](http://www.cnps-slo.org)  
[www.facebook.com/cnpsslo](https://www.facebook.com/cnpsslo)

## Legislative Notes by David Anderson 2012 RECAP

The California Legislature ended its 2012 regular session on August 31. During 2012 the Legislature passed 3 bills supported by CNPS and 2 bills opposed by it.

### CNPS supported:

AB 1540. This bill designates the Department of Boating and Waterways as the lead agency in controlling the invasive weeds, water hyacinth (*Eichhornia crassipes*), Brazilian elodea (*Egeria densa*) and South American spongeplant (*Limnobium laevigatum*) in the Sacramento-San Joaquin Delta. Governor Brown approved AB 1540 on August 27.

SB 972. This bill imposes additional requirements for notices to individuals, organizations and agencies of meetings and actions taken under the California Environmental Quality Act. Governor Brown approved this bill on August 29.

SB 1241. This bill revises and strengthens the fire safety element requirements in city and county general plans and guidelines of the Natural Resources Agency for the implementation of CEQA. The new fire safety element requirements are for state responsibility areas and very high hazard severity zones. Approved by the Governor September 13.

### CNPS opposed:

AB 890. This bill, which will be effective until January 1, 2016, exempts from CEQA requirements a project or activity carried by a city or county to improve public safety by repairing, maintaining or altering an existing roadway. Governor Brown approved the bill.

AB 1073. This very technical bill was passed earlier in the year and approved by the Governor on May 23, 2012. It provides that the certification process by the State Energy Resources Conservation and Development Commission would apply to a proposed conversion of a solar thermal powerplant (using steam) to a solar photovoltaic electrical generating facility under certain conditions. Following the general election in November, the incoming 2013-14 Legislature will convene on December 3, 2012 for organizational purposes.

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Websites: [www.cnps.org](http://www.cnps.org) & [www.cnpslo.org](http://www.cnpslo.org)

The IRS considers dues in excess of \$12.00 per  
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## *Dedicated to the Preservation of the California Native Flora*

The California Native Plant Society is a statewide non-profit organization of amateurs and professionals with a common interest in California's plants. The mission of the Society is to increase understanding and appreciation of California's native plants and to preserve them in their natural habitat through scientific activities, education and conservation. Membership is open to all.

Membership includes the quarterly journal, *Fremontia*, the quarterly *Bulletin*, which gives statewide news and announcements of the Society activities and conservation issues, and the chapter newsletter, *Obispoensis*. Websites: **cnps.org** **cnpslo.org** **facebook.com/cnpslo**



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